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EXAMINER	
DALEY, CHRISTOPHER ANTHONY	
ART UNIT	PAPER NUMBER
2111	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,788

Applicant(s)

HAYASHI ET AL.

Examiner

Christopher A Daley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1 - 29 are pending.

Specification

2. Claim 3 is objected to because of the following informalities: The word least is misspelled in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 17,19-20,23,2426-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Bosquez et al (US6522938), hereafter Bosquez.

5. As to claim 1 Bosquez discloses an apparatus management method comprising: prompting the input of category information for classifying the idle situations of idle apparatuses;
(Bosquez teaches of a management method where the furnaces used in integrated circuit fabrication comprising quartzware that is

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classified as new, clean, dirty, or unusable, COL. 1, lines 29 - 32. The quartzware classified as dirty / unusable are idle apparatus) prompting the input of idleness information (Bosquez teaches of the quartzware apparatus being classified in the quartzware inventory database under the current status column as is use, dirty, rejected, Figure 3) for specifying the idle situations of said idle apparatuses; (Bosquez teaches of developing a tracking system for the utilization of all quartzware used in the furnaces, COL. 1, line 66 - Col. 2, line 5).

and storing said idleness information in a memory device in which the idleness information is related to said category information. (Bosquez teaches of a system in Figure 1 comprising of system memory 16, where quartzware apparatus inventory information database 18 is stored).

6. As to claim 2 Bosquez discloses the apparatus management method, where said idleness information is permitted to be stored in said memory device in response to the input of said category information. (Bosquez teaches of storing inventory information that includes idleness parts containing all relevant information, COL. 2, lines 28 - 30, such as identification

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number, manufacturer. Figure 2 illustrates the information stored).

7. As to claim 3, Bosquez discloses the apparatus management method, where each of said idle situations is at least one of the failure of, maintenance of, and remodeling of the apparatus. (Bosquez teaches of keeping a history 44 of Figure 2 of the quartzware apparatus).

8. As to claim 4, Bosquez discloses the apparatus management method, where the category information stored in said memory device comprises a plurality of information, the plurality of the category information including a plurality of levels of hierarchy in which the different levels of hierarchy are related to one another. (Bosquez teaches a hierarchy ion information stored on the quartzware apparatus in Figure 3. Figure 3 shows a new level of detailed information of the current status classification).

9. As to claim 5, Bosquez discloses the apparatus management method, where when said category information is inputted, the input of apparatus identification information for identifying an apparatus from another apparatus is prompted. (Bosquez teaches

in Figure 2 an identification number 32 of figure 2 for each item entered).

10. As to claim 6, Bosquez discloses the apparatus management method, where: said memory device stores a maintenance information table to manage maintenance information, remodeling information table into which remodeling information is recorded, and a failure information table into which failure information is recorded, where each of the maintenance information table, the remodeling information table, and the failure information table is related to an apparatus master table which identifies an apparatus from another apparatus;
and the idleness information is classified into said maintenance information table, said remodeling information table, and said failure information table. (Bosquez teaches of a memory device 16 of Figure 1 that stores maintenance (history, 44 of Figure 2, cleaning (remodeling), (54 of Figure 3) failure information (rejected, 56 of Figure 3)

11. As to claim 7, Bosquez discloses the apparatus management method, where: said memory device stores a failure phenomenon data table into which failure phenomena are recorded, a failure cause site data table into which failure cause sites are

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recorded, and a failure cause data table into which failure causes are recorded, the failure phenomenon data table, where each of the failure phenomenon data table, the failure cause site data table, and the failure cause data table is related to an failure information table into which failure information is recorded; and the idleness information is classified into the failure phenomenon data table, the failure cause site data table, and the failure cause data table. (Bosquez teaches of maintaining a comment file (42 of Figure 2) and history file (44 of Figure 2) that would contain all failure information, COL.2, lines 28 - 30).

12. As to claim 8, Bosquez discloses an apparatus management method comprising: prompting the input of at least one of category information for classifying the idle situations of idle apparatuses and idleness information of the idle apparatuses; (Bosquez teaches of several apparatus categories (in use (50), available (52), dirty (54), rejected (56), used to classify the quartzware apparatus, Figure 3) extracting related information associated with inputted information from a memory device in which the category information for classifying the idle situations of the idle apparatuses and the idleness information of the idle apparatuses is stored in advance;

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(Bosquez teaches of computer memory device 16 figure 1 containing said classification information in database 18. This information can be selected from the database using the computer system specified in 10 of Figure 1)

and displaying said related information. (Bosquez teaches that computer system 10 of figure 1 provides the capability to view information, COL. 4, lines 55 - 57).

13. As to claim 9, Bosquez discloses the apparatus management method according to claim 8, where the category information stored in said memory device comprises a plurality of information, the plurality of the category information including a plurality of levels of hierarchy in which the different levels of hierarchy are related to one another. (Bosquez teaches of a plurality of information that is used to classify the data as illustrated in figure 2. Bosquez further shows in figure 3 a plurality of hierarchy of levels as current status classification of figure 2 is expanded in figure 3).

14. As to claim 10, Bosquez discloses the apparatus management method according to claim 8, further comprising:
making a statistical analysis on the basis of said related information and calculating the result of statistical analysis;

(Bosquez teaches of a system that is able to run statistically analysis of the related information, Col. 2, lines 40 - 42, and displaying the result of said statistical analysis. (Bosquez teaches of this computer system having the capability of viewing the information through computer system 10a - 10c).

15. As to claim 11, Bosquez discloses the apparatus management method according to claim 10, where: the input of apparatus category information representing the categories of said apparatuses is prompted when said category information is inputted; (Bosquez teaches of running instruction 64 of Figure 4 that would evaluate the category of quartzware apparatus that needed to be changed, Col. 5, lines 7 - 15).

and a statistical analysis of at least one of the idle time and the number of idle events is calculated as the result of statistical analysis for each piece of said apparatus category information when the result of said statistical analysis is calculated. (Bosquez teaches of running a statistical analysis on all the quartzware apparatus within the furnaces, COL. 5, lines 19 - 28, 66 of Figure 4).

16. As to claim 12, Bosquez discloses the apparatus management method according to claim 10, where: said category information

includes at least one of failure phenomenon information and failure cause information; (Bosquez teaches that quartzware that need to be changed due to scheduled maintenance, or due to excessive device defects are checked, COL. 5, lines 8 - 11)

and at least one of the failure time and the number of failures is calculated as the result of statistical analysis for each of said failure phenomenon and/or failure cause when the result of said statistical analysis is calculated. (Bosquez teaches that the statistics of how many process cycles the quartzware have experienced, and the quantities used are gathered, Col. 5, lines 22 - 28).

17. As to claim 13, Bosquez discloses the apparatus management method according to claim 10, where: apparatus identification information for identifying an apparatus from another apparatus and stoppers in charge who stop the idle states of the apparatuses in relation to the apparatus identification information are stored in said memory device in which the apparatus identification information and the stoppers in charge are related to said idleness information; (Bosquez teaches of the quartzware have unique identification number, and personnel that use this information to manage the factory, COL. 5, lines 26 - 27)

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and the relation between said stoppers in charge and other category information is calculated for each of said stoppers in charge when the result of said statistical analysis is calculated. (Bosquez teaches that stoppers use statistical information to help manage the factory costs, COL. 5, lines 26 - 27).

18. As to claim 14, Bosquez discloses an apparatus management method comprising: displaying an inspection item display screen including the inspection items of an apparatus to prompt the input of inspection situation values for determining the inspection situation of each inspection item, the inspection situation specified in values; (Bosquez teaches of a computer system 10 that allows for viewing quartzware apparatus inventory data, 62 of figure 4) storing inputted inspection situation values in a memory device; (Bosquez teaches of a computer system 10 that allows for modifying quartzware apparatus inventory data, 62 of figure 4)

making a statistical analysis on the basis of said inspection situation values; (Bosquez teaches of making statistical analysis of the inventory of the quartzware data, COL. 5, lines 20 - 22, 66 of Figure 4) and displaying the result of said statistical analysis. (Bosquez teaches that computer system 10

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of figure 1 provides the capability to view information, COL. 4, lines 55 - 57).

19. As to claim 15, Bosquez discloses the apparatus management method according to claim 14, where said statistical analysis calculates the tendency of said inspection situation values to change at a plurality of inspection times for the same inspection item. (Bosquez teaches of using the statistical analysis to calculate the average number of process cycles between changes of quartzware, COL. 5, lines 21 - 26).

20. As to claim 16, Bosquez discloses the apparatus management method according to claim 15, where the tendency of said inspection situation values to change is expressed by at least one of variations in said inspection situation value for each inspection time, the degree of rise and fall, and the continuity of variation. (Bosquez teaches that the quantity of quartzware used over each inspection period varies, COL. 5, lines 24 - 26).

21. As to claim 17, Bosquez discloses the apparatus management method according to claim 14, further comprising:

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determining whether the result of said statistical analysis meets a specific condition, after calculating the result of said statistical analysis, and where the displaying the result of said statistical analysis includes displaying a warning representation when it is determined that the result of said statistical analysis does not meet said specific condition.

(Bosquez teaches of using said statistical analysis to inform the automated factory system 12, of Figure 1 as to when to schedule maintenance, COL. 5, lines 42 - 45).

22. As to claim 19, Bosquez discloses the apparatus management method according to claim 14, where: said memory device stores an apparatus master table for identifying apparatuses, a maintenance master table into which maintenance items are recorded, and a standard master table into which maintenance work standards are recorded, where said apparatus master table is related to said maintenance master table and said maintenance master table is related to said standard master table; (Bosquez teaches that all relevant information on each quartzware item is stored in computer system memory 16, Figure 1, COL. 2, lines 28 - 30)

at least one of apparatus identification information for identifying apparatuses, inspection items, and the maintenance work standard is prompted when the input of inspection situation values is prompted; (Bosquez teaches in Figure 2 the quartzware inventory data prompted that includes a comment classification that may contain maintenance work standards)

and at least one of apparatus identification information for identifying apparatuses, inspection items, and the maintenance work standard is stored in said memory device when the inputted inspection situation values is stored in the memory device.

(Bosquez teaches that said information is stored in computer memory 16, with data 18 that comprises said information is stored).

23. As to claim 20, Bosquez discloses the apparatus management method according to claim 14, where: said memory device stores implementation record tables into which implementation records are recorded and an inspection master table into which inspection items are recorded, where each of said implementation record tables is related to said inspection master table for each category; the input of said maintenance situation value is prompted together with the input of the implementation record; and implementation records are stored by category, where the

implementation records are related to said maintenance situation values. (Bosquez teaches that all relevant records that would include said inspection implementation records would be stored in memory 16, COL. 2, lines 25 - 30).

24. As to claim 23, Bosquez discloses an apparatus management system comprising: a memory device configured to store category information for classifying the idle situations of idle apparatuses and idleness information for specifying the idle situations of the idle apparatuses, where the category information and the idleness information are related to one another; (Bosquez teaches of a management method system that includes a computer server¹⁴ of figure 1, that comprises server memory 16. This memory system is where the furnaces information used in integrated circuit fabrication contain quartzware apparatus that is classified as new, clean, dirty, or unusable, COL. 1, lines 29 - 32. The quartzware apparatus classified as dirty / unusable are idle apparatus. The database also contains related information such as identification number, location, COL. 4, lines 3 - 6)

a first device configured to present a plurality of said category information to prompt to select at least one of the category information; (Bosquez teaches of computer system 10, with a plurality of input devices (10a - 10C) that allows for

the input of data based on the various classification, COL. 3 lines 55 - 58).

and a second device configured to permit said idleness information to be stored into said memory device in response to the selection of said category information, where said idleness information stored in said memory device is related to the selected category information. (Bosquez teaches of computer system 10, with a plurality of computer devices (10a - 10C). These computer devices can access the computer server 14 on which the database containing the idleness information resides. This second device, computer 10 can load said information into its local memory. It also allows update of the database to take place, COL. 3 lines 55 - 58).

25. As to claim 24, Bosquez discloses the apparatus management system according to claim 23, further comprising:

a third device configured to request the input of a category information or a keyword used for retrieval in response to a request for the retrieval of the idleness information; (Bosquez teaches of computer system 10, with a plurality of input devices (10a - 10C) that allows for the retrieval of data based on the various classification, COL. 3 lines 55 - 58)

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and a fourth device configured to read out said idleness information related to said category information or said idleness information including said keyword from said memory device. (Bosquez teaches of computer server 14 being accessible by the automated factory system 12. Automated factory systems take data to schedule maintenance sessions, COL. 5, lines 38 - 45).

26. As to claim 26, Bosquez discloses an apparatus management system comprising: a memory device configured to store the inspection items of an apparatus and inspection situation values which determine the inspection situations of the inspection items specified in values, where the inspection items and the inspection situation values are related to one another; (Bosquez teaches of a system in Figure 1, that comprises a memory 16 used to store inspection items (quartzware), the information items (identification of piece) and situation value (furnace to which quartzware is located are related)

a first device configured to make a statistical analysis on the basis of each of said inspection situation values at a plurality of times for each of said inspection items; (Bosquez teaches of computer system 10 having a plurality of systems (10a - 10c).

Computer system 10a comprises a CPU and a monitor. The CPU can be designated as the (first device) processing unit to perform the statistical analysis and a second device configured to output the result of said statistical analysis. (Bosquez teaches of the capability of viewing the information on via the computer system 10, thus the associated monitor is the designated second device).

27. As to claim 27, Bosquez discloses the apparatus management system according to claim 26, where said inspection items are related to inspectors in charge, and said apparatus management system further comprising: a third device configured to give a warning that prompts an inspector in charge of the inspection item to input the inspection situation value, when said inspection situation value of an apparatus stored in said memory device has not been inputted after an elapse of a specific length of time.

28. As to claim 28, Bosquez discloses an apparatus management program product, which assigns a computer system a command to manage an apparatus, comprising: a recording medium;
a first program code recorded in said recording medium and
assigning said computer system a command to store category

information for classifying the idle situations of idle apparatuses and idleness information for specifying the idle situations of the idle apparatus, where the category information and the idleness information are related to one another;

(Bosquez teaches of a program code stored on a computer-related medium that allows for user to view and modify quartzware inventory data, COL. 4, lines 55 57, 62 of Figure 4).

a second program code recorded in said recording medium and assigning said computer system a command to present a plurality of said category information to prompt the selection of at least one of the category information; (Bosquez teaches of a second program code stored on a computer-related medium that allows for user to display quartzware needed to be changed, COL. 5, lines 7 - 10, 64 of Figure 4).

a third program code recorded in said recording medium and assigning said computer system a command to permit said idleness information to be stored in the memory device in response to the selection of said category information; (Bosquez teaches of program code that allows various types of information to be modified and then stored on the computer system memory. The location of quartzware one example of said information, COL. 4, lines 62 - 67).

and a fourth program code recorded in said recording medium and assigning said computer system a command to store said idleness information in said memory device, where the idleness information is related to the selected category information. (Bosquez teaches of program code that allows various types of information to be modified and then stored on the computer system memory. The location of quartzware one example of said information, COL. 4, lines 62 - 67).

29. As to claim 29, Bosquez discloses an apparatus management program product, which assigns a computer system a command to manage an apparatus, comprising: a recording medium; a first program code recorded in said recording medium and assigning said computer system a command to store the inspection items of an apparatus and inspection situation values which determine the inspection situations of the inspection items specified in values, where the inspection items and the inspection situation values are related to one another; a second program code recorded in said recording medium and assigning said computer system a command to make a statistical analysis on the basis of each of said inspection situation values at a plurality of times for each of said

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inspection items; and a third program code recorded in said recording medium and assigning said computer system a command to output the result of said statistical analysis.

Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

31. Claims 18, 21 - 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosquez.

32. As to claim 18, Bosquez does not disclose explicitly the apparatus management method, where said inspection items are stored in said memory device in which each of the inspection items is related to an inspector in charge in advance, and said apparatus management method further comprising: when said inspection situation value of an apparatus stored in said memory device has not been inputted after an elapse of a specific length of time, giving a warning that prompts an inspector in charge of the inspection item to input the inspection situation value. (However, Bosquez teaches of a system where all personnel

will record quartzware utilization information and maintain information about quartzware utilization at a single location, COL. 2, lines 1 - 7. It would have been obvious to one of ordinary skill in the art to track the inspection information, ensuring there is no lapse, as the goal of Bosquez system is to have a single location for all related information.

33. As to claim 21, Bosquez does not explicitly the apparatus management method, where: said memory device stores an implementation record table into which implementation records are recorded, an inspection master table into which inspection items are recorded, and a work schedule table into which work schedules are recorded, where each of said implementation record tables is related to said inspection master table by category and said work schedule table is related to said inspection master table; the input of said maintenance situation value is prompted together with the input of at least one of the inspection items and the work schedule; and at least one of inputted inspection items and inputted work schedule is stored, where at least one of the inputted inspection items and the inputted work schedule is related to said maintenance situation values. (However, Bosquez teaches that all relevant

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records that would include said inspection implementation records would be stored in memory 16, COL. 2, lines 25 - 30. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the identification master table with the work schedule and at least one of the inspection items as this supports a single system for tracking the utilization of all quartzware apparatus, COL. 1, line 66 - COL. 2, line 3)

34. As to claim 22, Bosquez does not explicitly teach the apparatus management method, where: said memory device stores a manufacturing section table for identifying divisions that manufacture by using apparatuses, a user table for identifying operators who use apparatuses, and a person-in-charge information table into which inspection items that operators take charge of are recorded, where said manufacturing section table is related to said user table and said person-in-charge information table is related to said user table; the input of said maintenance situation value is prompted together with the input of at least one of operator identification information for identifying operators and said inspection items; (Bosquez teaches that all relevant information on each quartzware item is stored in computer system memory 16, Figure 1, COL. 2, lines 28

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- 30. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the identification of inspectors as this supports a single system for tracking the utilization of all quartzware apparatus, COL. 1, line 66 - COL. 2, line 3).

Bosquez does not expressly teach at least one of inputted operator identification information and inputted inspection items is stored, where at least one of the inputted operator identification information and the inputted inspection items is related to said maintenance situation values. (Bosquez teaches that all relevant information on each quartzware item is stored in computer system memory 16, Figure 1, COL. 2, lines 28 - 30. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the identification what items said inspectors entered as this supports a single system for tracking the utilization of all quartzware apparatus, COL. 1, line 66 - COL. 2, line 3).

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35. As to claim 25, Bosquez does not explicitly teach the apparatus management system, further comprising:

a fifth device configured to make a statistical analysis on the basis of said category information and calculating the result of statistical analysis, where said fourth device outputs the result of said statistical analysis. (Bosquez teaches that the embodiment that is shown can be modified and still retain the spirit of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the embodiment with a terminal coupled to the server and memory to allow for statistical analysis due to personnel location as this supports a single system for tracking the utilization of all quartzware apparatus, COL. 1, line 66 - COL. 2, line 3).


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Conclusion

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A Daley whose telephone number is 703 605 4214. The examiner can normally be reached on 9 am. - 4p m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


CAD
September 10, 2004


TIM VO
PRIMARY EXAMINER